

Appl. No. 09/602,422
Amdt. dated August 12, 2003
Reply to Office Action of May 23, 2003

Amendments to the Claims

1. *(Previously Amended)* A System on a Chip (SoC) netlist builder and verification computer system comprising:

 a user interface module for providing user friendly and convenient interfaces that facilitate easy entry and modification of user selections and parameters;

 an expert system module for analyzing information supplied by said user module and automatically providing SoC building and verification data to a parameter application module;

 a parameter application module for applying parameters and developing command line strings based upon information received from said user interface and said expert system;

 a chip level netlist generation module for automatically generating a chip level netlist based upon information received from said user interface module and said expert system module; and

 a verification module for generating a test bench and a logical verification environment automatically including simulation models based upon information interpreted by said parameter application module.

2. *(Previously Amended)* The System on a Chip (SoC) netlist builder and verification computer system of Claim 1 wherein said parameter application module creates directions passed to other modules for execution.

3 *(Previously Amended)* The System on a Chip (SoC) netlist builder and verification computer system of Claim 2 wherein said directions passed to other modules for execution includes command lines.

4 *(Previously Amended)* The System on a Chip (SoC) netlist builder and verification computer system of Claim 1 wherein said SoC building and verification data provided by said expert system is retrieved from a storage medium comprising a database of building block circuit description files.

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5. *(Previously Amended)* The System on a Chip (SoC) netlist builder and verification computer system of Claim 1 wherein said chip level netlist generation module includes the instantiation of internal integrated circuit (IC) devices and connections between the IC devices for internal signals.

6. *(Previously Amended)* The System on a Chip (SoC) netlist builder and verification computer system of Claim 1 wherein said user interface module generates user friendly graphical user interfaces (GUIs) to facilitate selection of standardized circuit blocks and parameterization of the selected standardized circuit blocks.

7. *(Cancelled)*

8. *(Previously Amended)* The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

assisting easy entry and modification of user selections and parameters;
presenting information regarding operations of said SoC netlist builder and verification method to a user; and

facilitating selection of standardized circuit blocks and parameterization of said selected standardized circuit blocks.

9. *(Currently Amended)* In a computer system, a system on a chip netlist builder and verification computer method for facilitating creation and modification of internal integrated circuit (IC) designs utilizing existing circuit block designs, said method comprising the steps of:

providing a user friendly interface;
performing a parameter application process;
executing an expert system process;
implementing a chip level netlist generation process including core netlist and I/O pin netlists;
verifying a system on a chip design automatically;

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~~creating an underlying structure list;~~
~~interpreting information and commands entered by a user; and~~
~~performing iterations required to generate an underlying structure list.~~
creating an underlying structure list, wherein creating the underlying structure list
comprises,
interpreting information and commands entered by a user; and
performing required iterations.

10. (*Currently Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

determining which circuit block is selected by a user;
initializing a parameterizable command line string;
processing operations for a the circuit block a user has requested;
making an instance specific copy of the parameterizable command line string; and
updating a copy of the parameterizable command line string with user indicated parameters received for a particular instance.

11. (*Previously Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

appending the circuit block attributes to other files; and
adding the gate count of a circuit block to a list of gate counts for an IC.

12. (*Currently Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

generating an internal integration list associated with the circuit block designs;
and
utilizing said internal integration list in the processing of other routines included in ~~an~~ the SoC netlist building and verification computer method.

13. (*Previously Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the step of extracting circuit block descriptions

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from a storage location based upon the applied parameter information.

14. (*Previously Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

creating an internal integrated circuit (IC) core level netlist in a desired location based on data

structures that were populated in other routines of said SoC netlist builder and verification computer method; and

generating hardware description language VHDL or Verilog code that automatically performs the task of coupling circuit blocks together.

15. (*Previously Amended*) The system on a chip netlist builder and verification computer method of Claim 9 further comprising the steps of:

providing signal declarations;

producing required HDL assign statements in accordance with an assignment list; and

generating the HDL code that will instantiate the signal declarations and HDL assign statements based upon an instantiation list.

Claims 16-22 (*Cancelled*)

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